

Wild Harbor Subwatershed

Falmouth, Cape Cod, Massachusetts

The Wild Harbor Subwatershed is located in the Towns of Falmouth and Bourne. It has an area of 2,584 acres. Wild Harbor is a well-flushed embayment with reasonably good water quality. The harbor is 110 acres and has salt marsh ringing the edges and a predominantly sandy bottom in the outer regions.

According to The Coalition for Buzzards Bay Baywatchers II report, the upper end of the subwatershed is largely undeveloped because 39% of the land area is preserved in either Massachusetts Military Reservation or Crane's Wildlife Management Area. The lower section of the watershed, below Route 28, is near buildout. In 1969, a barge spilled 180,000 gallons of no. 2 fuel oil that washed into Wild Harbor. While most of the effects of this spill have long since dissipated, it is still detectable in the substrate in places, and still affects the shellfish. The harbor supports soft-shell clams, quahogs, and oysters, but is periodically closed to shellfishing and classified prohibited due to poor water quality from bacterial contamination, likely from the adjacent watershed. The outer margins of the harbor continue to support eelgrass beds.

Residential and commercial land accounts for most of the nitrogen loading to the Wild Harbor Estuary. The watershed east of Route 28 is largely undeveloped while the coastal portions are approaching full build-out. Data on dissolved oxygen levels suggest that the inner regions of Wild Harbor may be showing moderate nutrient related habitat declines and the system may be undergoing a gradual decline. The increase in nutrient loading to the Harbor is not a result of new growth or building, but rather from the conversion of seasonal residences to year-round residences in the Silver Beach area. Failing septic systems combined with poor soil conditions and a high groundwater table that fluctuates with the tides contribute nitrogen to the harbor. At present the watershed nitrogen loadings are being held at a "reduced" level by the large fraction of the upper watershed that is undeveloped within the Massachusetts Military Reservation and the Crane Wildlife Reserve.

Most of the water quality monitoring done in the area is for dissolved oxygen. This parameter serves as a screening tool to alert monitors to the onset of eutrophic conditions. Oxygen values indicate a moderately healthy system, despite the increased watershed nutrient loadings and oil spills in recent decades. There does appear to be a downward trend in oxygen levels. This data indicates that the inner regions of the system may be showing modest habitat decline as a result of excess nutrients and that the system may be undergoing a gradual decline.

Approximately five percent of Falmouth is publicly sewered. The sewered areas are Main Street in Falmouth and nearly all of Woods Hole. Ninety to ninety-five percent of the town is on municipal water. There is one treatment plant in Falmouth, currently processing 550,000 gallons per day (gpd) with a capacity of 810,000 gpd. A \$14 million upgrade has been approved to bring the capacity up to one million gpd in the next few years.

A portion of this watershed falls within the Massachusetts Military Reservation. Past oil, fuel, chemical, and hazardous waste disposal activities on the base have created groundwater pollution plumes, one of which is located within this watershed. The Air Force Center For Environmental Excellence (AFCEE) is investigating and addressing this groundwater pollution.

Stewards:

- The Coalition for Buzzards Bay (www.savebuzzardsbay.org)
- Falmouth Associations Concerned with Estuaries and Saltponds (FACES)

Studies conducted in the watershed:

- Baywatchers II. Nutrient Related Water Quality of Buzzards Bay Embayments: A Synthesis of Baywatchers Monitoring 1992-1998. The Coalition for Buzzards Bay. December 1999.
- Environmental Notification Form, Massachusetts Environmental Protection Act: New Silver Beach Wastewater System. Town of Falmouth Department of Public Works. August 2001.
- Atlas of Tidally Restricted Salt Marshes – Buzzards Bay Watershed, Massachusetts. 2002. Buzzards Bay Project National Estuary Program.
- Atlas of Stormwater Discharges in the Buzzards Bay Watershed, Final Draft. June 2002. Buzzards Bay Project National Estuary Program.

Who is collecting water quality data and where:

- The Coalition for Buzzards Bay Baywatchers. Monitoring only dissolved oxygen levels since 1992. Began nutrient and chlorophyll a sampling in 1999.

Management actions taken:

- The Town of Falmouth is planning to put in 200 new sewer connections in the New Silver Beach area in the next couple of years. Objective is to eliminate substandard individual onsite septic systems. Project will prevent contamination of the shellfish beds located in Wild Harbor and Wild Harbor River. The new collection system will gather and transmit wastewater to a new treatment facility located on Williams Road near the North Falmouth Elementary School.
- Preservation of the upper 15,000 acres of the Mass Military Reservation by the Commonwealth of Massachusetts.

Subwatershed facts: (For data sources see Appendix)

- 21 E sites: 4 on the Massachusetts Military Reservation
- Solid waste sites: none
- Zone IIs located in this watershed: 1
- Percent of the undeveloped land that is protected (according to 1985/1990 data): 18.8%
- Acres of existing wetlands: 60
- Certified vernal pools: 1
- Named freshwater ponds: Potters Hole, Wing, Dam, Turtle, Crowell, Edmonds (*Falmouth*)
- Named rivers or creeks: Wild Harbor River
- Shellfish growing areas: The innermost sections of Wild Harbor River and Silver Beach Harbor are prohibited to shellfish harvesting. Wild Harbor is open.

Priorities:

- Acquire open space. Parcels considered a priority for acquisition for water supply protection and development: Falmouth Tracts 4, 6, 11, 12, 19, 26, 33, and 35 were ranked as having medium or high water supply development potential in the Cape Cod Commission's *Priority Land Acquisition Assessment Project* (April 1999). These tracts are located throughout the Town of Falmouth.

- Implement those salt marsh restoration projects identified in the *Atlas of Tidally Restricted Salt Marshes – Buzzards Bay Watershed, Massachusetts* (2002) that have been evaluated and prioritized by the town. Sites in this subwatershed are FA11, FA12, FA13, FA35, FA36, FA37, and FA39.
- Edmunds Pond needs volunteers to participate in the Pond and Lakes Stewardship Project (PALS), measuring water quality and other characteristics of the pond.

Recreation:

Camping areas: none

Golf courses:

- Ballymeade Country Club

Pathways and trails:

- www.capecodcommission.org/pathways/trailguide.htm

Public access:

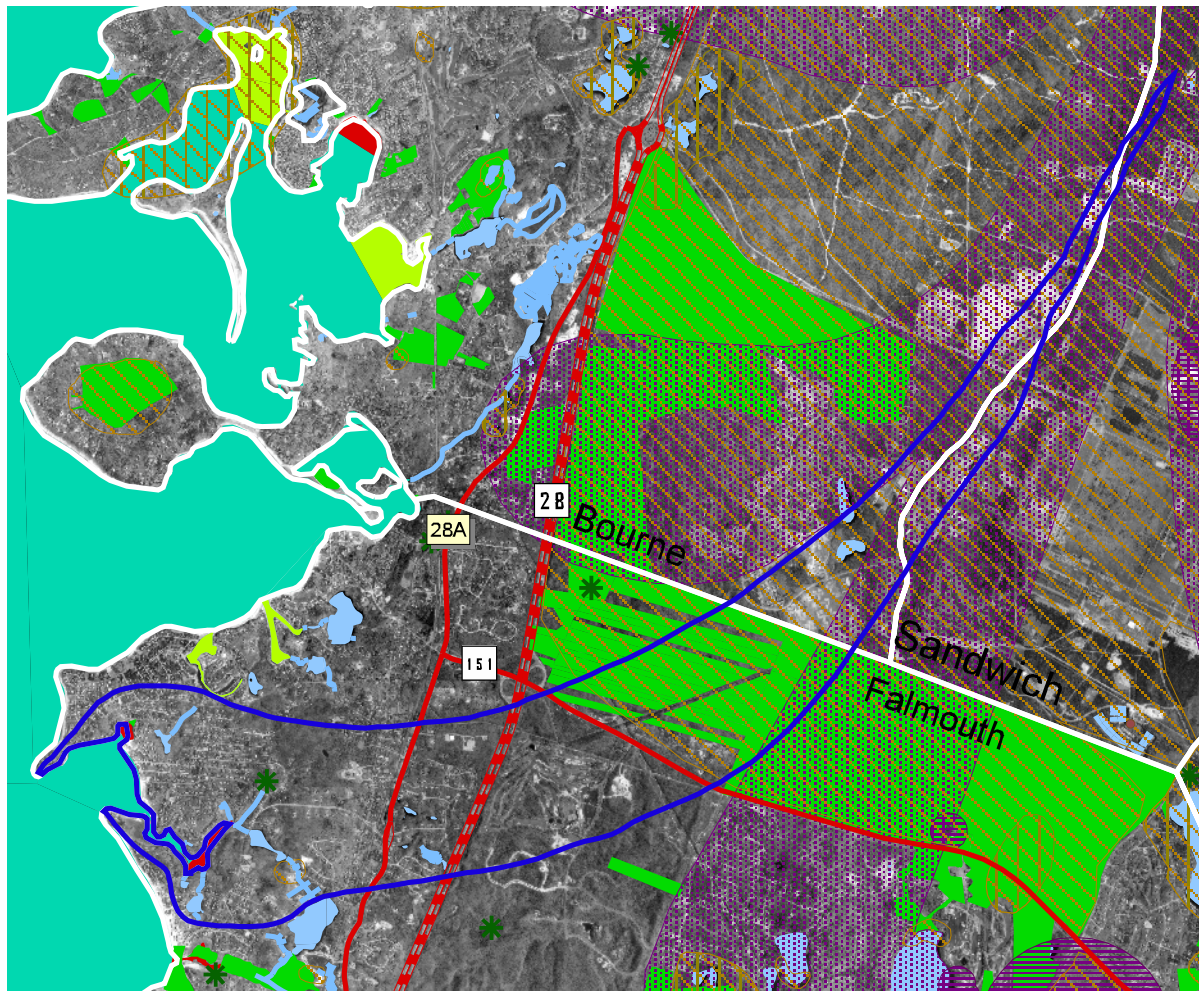
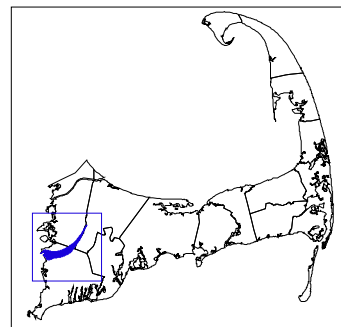
- www.state.ma.us/dfwele/pab/pabSEmap.htm

Public beaches and landings:

- New Silver Beach
- 98 boat moorings and slips

Wild Harbor

Falmouth and Bourne, MA



Watershed Resources



0 0.5 1 1.5 2 Miles

Natural Heritage and Endangered Species Program Data

- Certified Vernal Pool
- Priority Habitats of Rare Species
- Estimated Habitats of Rare Species

Groundwater Protection Areas

- Interim Wellhead Protection Area
- Zone II
- Solid Waste Facility

Watershed Boundary

Anadromous Fish Run

Shellfish Growing Areas

- APPROVED
- CONDITIONALLY APPROVED
- MANAGEMENT CLOSURE
- PROHIBITED
- RESTRICTED

Open Space

Streams

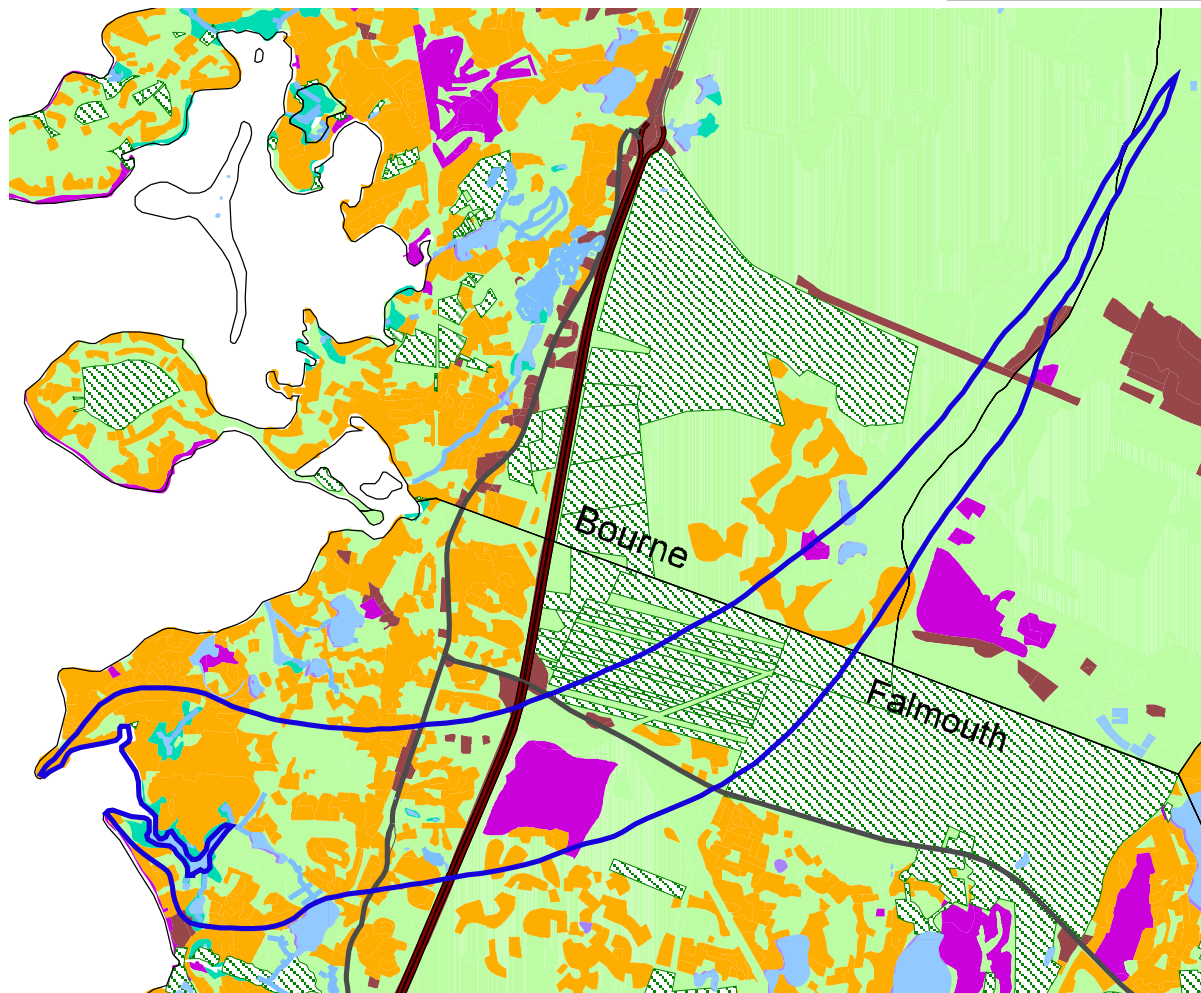
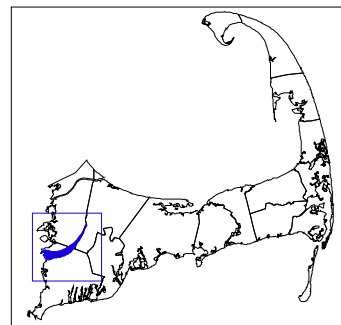
Ponds

Roads



Wild Harbor

Falmouth and Bourne, MA



Land Use



0 0.5 1 1.5 2 Miles

Land Use

- non-residential developed
- open land
- recreation
- residential
- water
- wetland
- Streams
- Ponds
- Watershed Boundary
- Protected Open Space

